In the claims:

1. (Currently Amended) A method for passively determining wheel lift of a wheel of an automotive vehicle comprising:

providing an operating input torque to the wheel;

determining the operating input torque to the wheel;

determining a rotational speed of the wheel;

determining a wheel response to the operating input torque; [[and]]

determining a wheel lift condition as a function of the operating input torque, the rotational speed of the wheel and the wheel response;

determining a wheel response comprises determining a wheel slip rate for the wheel;

determining a wheel lift condition comprises determining a wheel lift condition in response to comparing the wheel slip rate to a slip rate threshold; and

determining a slip ratio in response to the rotational speed of the wheel and wherein determining a wheel response and a wheel lift condition comprises determining a sign of the slip ratio or a sign of the slip rate.

2-3. (Canceled)

4. (Currently Amended) A method as recited in claim [[3]]1 wherein the slip rate threshold is a function of the operating wheel torque.

5. (Canceled)

6. (Original) A method as recited in claim 1 wherein determining a wheel response comprises determining a wheel acceleration.

7. (Original) A method as recited in claim 6 wherein determining a wheel lift condition comprises determining a wheel lift condition in response to comparing the wheel acceleration to a wheel acceleration threshold.

8. (Original) A method as recited in claim 7 wherein the acceleration threshold is a function of the operating wheel torque.

9. (Original) A method as recited in claim 6 further comprising determining a slip ratio in response to the rotational speed of the wheel, wherein determining a wheel response further comprises determining a sign of the slip ratio and a sign of the wheel acceleration and wherein determining a wheel lift condition comprises determining a wheel lift condition as a function of the sign of the slip ratio and the sign of the wheel acceleration.

10. (Original) A method as recited in claim 1 wherein determining a wheel response comprises determining a wheel slip ratio for the wheel and a wheel acceleration.

11. (Original) A method as recited in claim 10 wherein determining a wheel lift condition comprises determining a wheel lift condition in response to comparing the wheel acceleration to a wheel acceleration threshold and comparing the wheel slip rate to a slip rate threshold.

12. (Original) A method as recited in claim 7 wherein the acceleration threshold and the slip rate threshold are a function of the operating input torque.

13. (Original) A method as recited in claim 1 further comprising determining a sign of the operating torque, determining a sign of the wheel slip ratio and determining a sign of the wheel acceleration, wherein determining a wheel lift condition comprises comparing the sign of the operating torque to the sign of the wheel slip ratio and the sign of the wheel acceleration.

14. (Original) A method as recited in claim 1 wherein determining a wheel lift condition comprises generating a possible wheel lift signal, a possibly grounded signal, a wheel grounded signal, a wheel lifted signal.

15. (Original) A method as recited in claim 1 further comprising determining a slip rate for the wheel, a wheel acceleration and a slip ratio wherein determining a wheel lift condition in response to the input torque, the rotational speed and the wheel response comprises determining a wheel lift condition in response to the input torque, the wheel acceleration, wheel slip ratio and wheel slip rate.

16. (Original) A method as recited in claim 1 further comprising repeating determining the operating input torque to the wheel, determining a rotational speed of the wheel, determining a wheel response to the operating input torque, determining a wheel lift for a predetermined number of cycles, and when the wheel lift condition is determined a predetermined number of times, generating a wheel lifted signal.

17. (Currently amended) A method for passively determining wheel lift of a wheel of an automotive vehicle comprising:

providing an operating input torque to the wheel;

determining a magnitude of the operating input torque to the wheel;

determining a wheel response to the operating input torque comprising determining a wheel acceleration; [[and]]

generating a wheel lift signal and a wheel grounded signal as a function of the magnitude of the operating input torque and the wheel response; and

determining a slip ratio in response to a rotational speed of the wheel, wherein determining a wheel response further comprises determining a sign of the slip ratio or a sign of the wheel acceleration.

18. (Original) A method as recited in claim 17 wherein determining a wheel response comprises determining a wheel slip rate for the wheel.

19. (Original) A method as recited in claim 18 wherein determining a wheel lift condition comprises determining a wheel lift condition in response to comparing the wheel slip rate to a slip rate threshold.

20. (Original) A method as recited in claim 18 further comprising determining a slip ratio in response to a rotational speed of the wheel and wherein determining a wheel response further comprises determining a wheel response comprises determining a sign of the slip ratio and a sign of the slip rate and wherein generating a wheel lift signal comprises generating a wheel lift signal as a function of the sign of the slip ratio and the sign of the slip rate.

21. (Original) A method as recited in claim 17 wherein determining a wheel response comprises determining a wheel acceleration.

22. (Original) A method as recited in claim 21 wherein generating a wheel lift signal comprises generating a wheel lift signal in response to comparing the wheel acceleration to a wheel acceleration threshold.

23. (Original) A method for passively determining wheel lift of a wheel of an automotive vehicle comprising:

applying an operating input torque to a wheel;

passively determining an input torque magnitude and input torque direction;

determining wheel slip for the wheel;

determining a wheel response to the operating input torque;

determining a wheel response threshold in response to the operating input torque;

comparing the wheel response to the wheel response threshold; and

generating a wheel lifted signal or wheel grounded signal in response to the operating input torque, the wheel slip and comparing the wheel response.

24. (Original) A method as recited in claim 23 wherein indicating comprises indicating a possibly lifted signal or possibly grounded signal.

25. (Original) A method as recited in claim 23 wherein the wheel response comprises a wheel slip rate and the wheel response threshold comprises a wheel slip rate threshold.

26. (Original) A method as recited in claim 23 wherein the wheel response comprises wheel acceleration and the wheel response threshold comprises a wheel acceleration threshold.

27. (Original) A method as recited in claim 23 wherein the wheel response comprises a wheel slip rate and wheel acceleration.

28. (Original) A method for passively determining wheel lift of a wheel of an automotive vehicle comprising the steps of:

applying an operating input torque to a wheel;

passively determining an input torque magnitude and input torque direction;

determining a wheel slip in response to the operating input torque;

determining a wheel slip threshold in response to the operating input torque;

comparing the wheel slip to the wheel slip threshold;

generating a wheel lifted signal when the wheel slip is above the wheel response threshold, the input torque magnitude is high and the and the wheel slip is diverging; and

when the input torque magnitude is large, the wheel slip is near zero, generating a grounded wheel signal.

29. (Original) A method as recited in claim 28 further comprising when the input torque is near zero and the wheel slip is converging, generating a grounded wheel signal.

30. (Original) A method as recited in claim 28 further comprising when the input torque is near zero and the wheel slip is non-convergent, generating a wheel lift signal.

31. (Original) A method as recited in claim 28 wherein wheel slip comprises a wheel slip rate.

32. (Original) A method as recited in claim 28 wherein wheel slip comprises a slip ratio.

33. (Currently Amended) A method as recited in claim 28 further comprising determining a wheel acceleration in response to the operating input torque;

determining a wheel acceleration threshold in response to the operating input torque;

comparing the wheel acceleration to the wheel acceleration threshold; and

generating a wheel lifted signal when the wheel acceleration is above the wheel acceleration threshold, the wheel slip is above the wheel slip threshold, the input torque magnitude is high and the ~~and the~~ wheel slip and acceleration are diverging.

34. (Currently Amended) A system for detecting lift of a wheel of an automotive vehicle comprising:

a speed sensor coupled to the wheel producing a wheel speed signal;

a torque control system coupled to the wheel for generating an operating input torque to the wheel; and

a controller coupled to the said torque control system and the wheel speed sensor, said controller determining a wheel response <u>in response</u> to the operating input torque, said controller generating a wheel lift signal as a function of the operating input torque, the wheel speed signal and the wheel response<u>, said</u>

controller further determining a wheel lift condition in response to the input torque, the wheel acceleration, the slip ratio, and the slip rate.

further determining a slip ratio in response to a rotational speed of the wheel and wherein determining a wheel response and generating a wheel lift signal comprises determining a sign of the slip ratio or a sign of the slip rate.

35. (Original) A system as recited in claim 34 further comprising a yaw rate sensor generating a yaw rate signal, said slip ratio being a function of the yaw rate signal.

36. (Original) A system as recited in claim 34 wherein the wheel response comprises a wheel slip ratio.

37. (Original) A system as recited in claim 34 wherein the wheel response comprises a wheel acceleration.

38. (Original) A system as recited in claim 34 wherein the wheel response comprises a wheel slip rate.